What is claimed is:

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- A method of protecting Flash memory against alterations, comprising
 providing different degrees of protection including
 persistently locking a sector for preventing modification of the sector, and
 dynamically locking a sector which prevents modification of the sector without
 first resetting a protection bit.
- 2. A method of Claim 1, wherein persistently locking a sector, includes assigning a persistent protection bit (PPB) in non-volatile memory.
- 3. A method of Claim 1, wherein dynamically locking a sector, includes assigning a dynamic protection bit (DPB) in a volatile memory. This volatile memory may take the form of flip-flops.
- 4. A method of Claim 3, wherein the DPBs are individually modifiable through a write command.
- 5. A method of Claim 3, wherein after a power-up or a hardware reset all DPBs are either set or reset, depending on the desired default state.
- 6. A method of Claim 2, further comprising a further level of protection applying to the persistent locking of the sectors, by making use of a PPB lock bit in volatile memory, which, when set, prevents the states of the PPBs being changed.
- 7. A method of Claim 1, further comprising holding a write protect pin low to prevent certain sectors being changed.
- 8. A method of Claim 7, further comprising maintaining boot code in said certain sectors.
- 9. A method of Claim 6, further comprising including a password mode requiring that a password be entered in order to clear the PPB lock bit.
 - 10. A method of Claim 9, wherein the password is a fixed password.
- 11. A method of Claim 9, wherein the password is variable and is produced by a dynamic password algorithm.
- 12. A method of Claim 9, wherein when password mode is selected, the PPB lock bit is in a set state when the device is first powered on or comes out of a reset cycle.
- 13. A method of Claim 10, wherein the password is stored in a one time programmable region of the Flash memory.

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- 14. A method of Claim 9, wherein a password mode locking bit is assigned which permanently sets the Flash memory in password mode.
- 15. A method of Claim 9, wherein a non-password mode locking bit is assigned which, once set, permanently prevents entering the password mode.
- 16. A method of Claim 9, wherein a time delay is introduced between each attempt to clear the PPB lock bit.
- 17. A method of Claim 9, wherein only a limited number of successive attempts at clearing the PPB lock bit are permitted.
- 18. A method of Claim 9, wherein a new power cycle is required between attempts to clear the PPB lock bit.
- 19. A method of Claim 9, wherein the password is related to an electronic serial number (ESN) of the Flash memory.
- 20. A Flash memory having multiple degrees of protection, comprising a non-volatile storage area defining at least one Persistent Protection Bit (PPB) which has to be cleared in order to change the contents of the memory, and
- a volatile storage area defining at least one Dynamic Protection Bit (DPB), which has to be cleared in order to change the contents of the memory.
- 21. A method of Claim 20, wherein the volatile storage area further defines at least one PPB lock bit which, when set prevents the at least one PPB from being cleared.
- 22. A method of Claim 21, wherein each DPB and each PPB lock bit can be cleared only by means of a power-up or hardware reset.
- 23. A method of Claim 21, wherein there is one PPB and one DPB per sector of the Flash memory, and a single global PPB lock bit for all sectors.
- 24. A Flash memory includes a password or password generating code in the non-volatile storage area in an area that is read and write protected.
- 25. A method of Claim 24, wherein the password in the non-volatile storage area or generated by the code defines a password that has to be entered to clear the PPB lock bit.
- 26. A method of Claim 25, wherein the Flash memory includes at least one mode selection bit for selecting password mode or non-password mode.

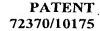
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- 27. A method of Claim 26, wherein the at least one mode selection bit is located in a one time programmable portion of the memory to permanently lock the memory into one or the other mode.
- 28. A method of Claim 20, wherein further including a write protect pin to prevent programming or erasing of part of the Flash memory.